For the user

Operating instructions

BM Programming Module

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GB

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1 Notes concerning the documentation

1.1 Other applicable documents

Operating instructions for the boiler

For the heating engineer
Installation instructions for BM programming module
Installation instructions for the boiler

The instructions for all accessory modules and other accessories may also be applicable.

1.2 Safe-keeping of the documents

The operator or the user of the system is responsible for the safe-keeping of all manuals and instructions.

- This operating manual and all other applicable documents must be handed on to subsequent owners.

1.3 Symbols and warning notices used

Symbol for additional information

- Symbol for a required action

Warning notices in the text provide a warning of potential dangers before an action is started. The warning instructions provide you with an indication of the potential severity of the danger by using a pictogram and a signal word.

Pictogram	Signal word	Explanation
	Danger!	Danger to life or danger of severe injury
	Danger!	Danger to life or risk of severe injury from electric shock
	Warning!	Risk of minor injury
	Caution!	Potential material damage

Tab. 1.1 Meaning of warning notices

1.3.1 Structure of warning instructions

The warning notices in this manual can be recognised by the pictogram, a top line and a bottom line. The warning notices are structured according to the following principle:

Signal word
Type and source of the danger.
Explanation of the danger.
▶ Instructions for action to avert the danger.

2 Safety and regulations

- The instructions in this chapter must always be followed.

2.1 Intended use

The Wolf BM programming module is used exclusively in connection with Wolf boilers and Wolf accessories.
The Wolf BM programming module is used to control central heating systems and central heating systems with hot water generation.
Intended use includes the observance of the operating instructions and all other applicable documents.
Any other use in addition to this is considered to be non-intended. The manufacturer/supplier shall not be liable for damage resulting from this. The risk is borne entirely by the operator.

2.2 General safety instructions

The BM programming module must be installed and started up by a qualified heating engineer.
Electrical installation must only be carried out by qualified electricians.
Faults or damage to the BM programming module or the heating system must only be rectified by a qualified heating engineer.

Avoiding the risk of scalding
Hot water temperatures in excess of 65 °C can cause scalding.
When the anti-legionella function is activated, the DHW cylinder is heated to above 65 °C for at least an hour.
With solar hot water generation the hot water temperature can rise to over 90 °C.

- Do not set the hot water temperature above 60 °C.
- Ask your heating engineer whether the anti-legionella function is activated.
- Ask your heating engineer when the anti-legionella function starts.
- Ask your heating engineer whether he has fitted a thermostatic water mixer to provide protection from scalding.

Avoiding malfunctions

- Only operate the system if it is in a technically perfect condition.
- Do not remove, bridge out or deactivate any safety or monitoring devices.
- You must rectify faults and damage that impair safety immediately.

Avoiding frost damage

- Make sure that the heating system remains in operation and that the rooms are adequately heated when you are away during frosty periods.

3 Equipment description

The BM programming module is a control unit for controlling heating and hot water generation.
Six operating modes are available:

- **Automatic timer mode**
  Heating at programmed times
  Hot water generation at programmed times
  Circulation pump at programmed times
- **Summer mode**
  Heating not in operation
  Hot water generation at programmed times
  Frost protection active
  Pump standstill protection active
- **Continuous mode**
  24 hour heating
  24 hour hot water generation
  Circulation pump at programmed times
- **Setback mode**
  Heating at reduced temperature
  Hot water generation at programmed times
  Circulation pump at programmed times
- **Stand-by mode**
  Heating not in operation
  Hot water generation not in operation
  Frost protection active
  Pump standstill protection active
- **Flue gas test** (installed in boiler)
  Full load operation for emissions measurement

The BM programming module also offers the following special functions:

- **Heating**
  Heating over a period of up to 30 days

- **Reduce**
  Reduce mode over a period of up to 30 days

- **1x DHW**
  One-off cylinder charging for one hour

- **Key lock**
  Prevents inadvertent alteration of the settings
- **Switch times**
  Times for the automatic timer mode
- **Room influence** (programming module as remote control)
  Correction function to compensate for temperature influences
- **Winter/summer changeover**
  Optimisation of the heating times
- **ECO-RED (ECO reduction)**
  Optimisation of heating times in the setback mode

4 Operation

4.1 Overview of the BM programming module

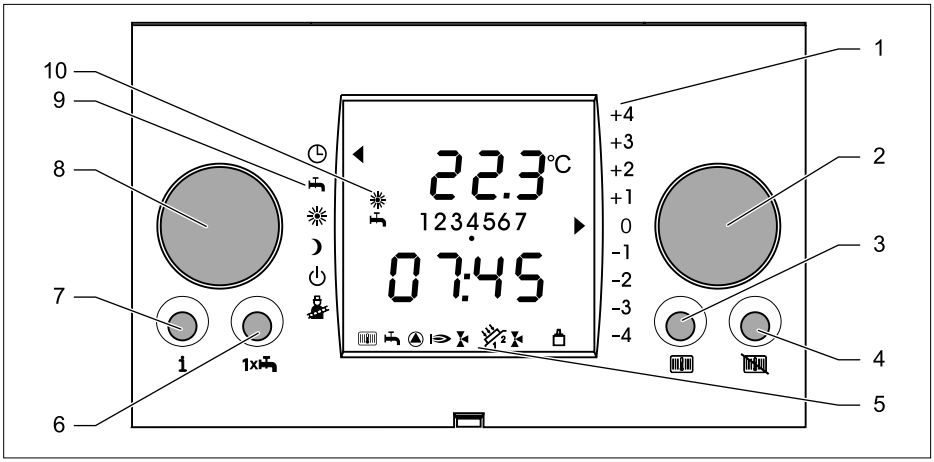
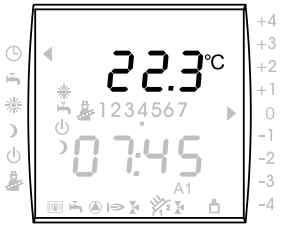


Fig. 4.1 BM programming module

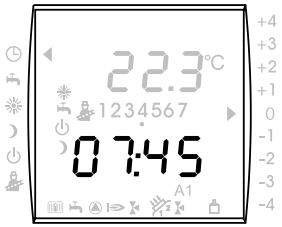
1 Temperature correction
2 Right-hand dial
3 **Heating** button
4 **Reduce** button
5 Function displays
6 **1x DHW** button
7 **Info** button
8 Left-hand dial
9 Operating mode
10 Status display

4.2 Display overview

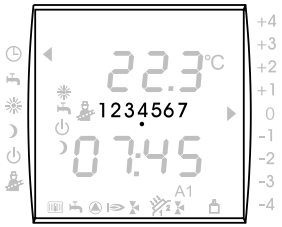


Room temperature, boiler temperature, mixer circuit temperature or solar system hot water temperature
The display of the BM programming module shows the following temperatures, depending on the installation location:

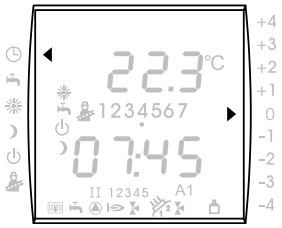
Room temperature	- remote control
Boiler temperature	- boiler
Mixer circuit temperature	- mixer module
Solar system hot water temperature	- solar module



Time and outside temperature
The display on the BM programming module shows the time and the outside temperature alternately (if an outside sensor is connected).

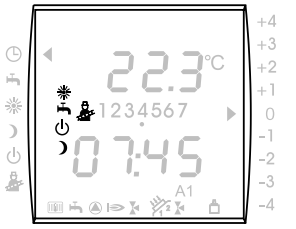


Day
The display on the BM programming module shows the currently set day.
1 = Monday
2 = Tuesday
…
7 = Sunday



◀ **Left-hand arrow**
operating mode set

▶ **Right-hand arrow**
room temperature correction set

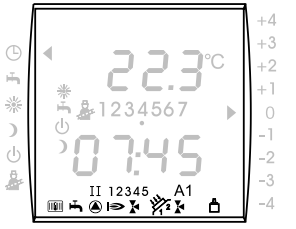


Status display
The display on the BM programming module shows the current operating mode of the heating system.

- Automatic timer mode or continuous mode
- Hot water generation enabled
- Stand-by mode
- Setback mode
- Flue gas test (maximum output mode) is active

Symbols flashing

- **Heating** button has been pressed
- **1x DHW** button has been pressed
- **Reduce** button has been pressed



Function displays
The display on the BM programming module shows the current function of the heating system.

- Boiler in heating mode
- Boiler in hot water mode
- Pump on the boiler ON
- Burner ON
- Mixer circulation pump for Mixer 1 ON
- Mixer circulation pump for Mixer 2 ON
- **A1** Programmable output ON
- Solar circuit pump 1 active
- Solar circuit pump 2 active
- eBUS connection active
- I Burner stage 1 active, multi-stage burner
- II Burner stage 2 active, multi-stage burner
- 12345 Number of boilers

4.3 Operating modes

You can set various different operating modes.

4.4 Setting automatic timer operation

The automatic timer switches the heating, the hot water generation and the circulation pump on and off at the programmed switch times.
Within the switch times, in heating mode the heating system heats up to the set room temperature (day temperature).
Within the switch times, the DHW cylinder is heated up to the set hot water temperature.
Within the switch times, the circulation pump (if fitted) is switched on.

Heating: Switch time
Hot water (DHW): Switch time
Circulation: Switch time

▶ Turn the left-hand dial until the arrow is next to the **Automatic timer mode** ◷ symbol.

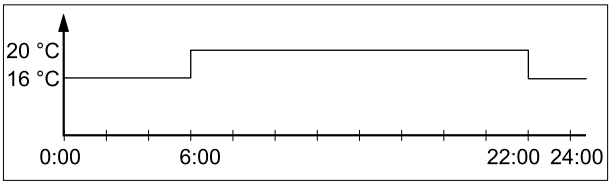
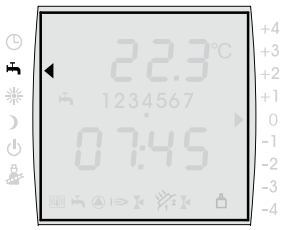


Fig. 4.2 Example of a switch time

In the switch time from 6:00 to 22:00, the heating heats to the set room temperature (day temperature) in heating mode. In the period from 22:00 to 6:00 the heating heats to the setback temperature.

4.4.1 Setting summer mode



Heating: OFF
Hot water (DHW): Switch time
Circulation: Switch time

The heating is switched off in summer mode.
In the summer mode the BM programming module switches the hot water generation on or off in accordance with programmed switch times.
Within the switch times, the circulation pump (if fitted) is switched on.
The frost protection function is active.
The pumps of the heating system are started at regular intervals in order to prevent the mechanical parts from seizing up.

- Turn the left-hand dial until the arrow is next to the **Summer mode** symbol.

4.4.2 Setting continuous operation mode

Heating: ON
Hot water (DHW): ON
Circulation: Switch time

In continuous mode the heating and hot water generation are switched on continuously over a 24 hour period.
The heating heats up to the set room temperature (day temperature).
The DHW cylinder is heated up to the set hot water temperature.
Within the switch times, the circulation pump (if fitted) is switched on.

- Turn the left-hand dial until the arrow is next to the **Continuous operation mode** symbol.

4.4.3 Setting the setback mode

Heating: Reduced temperature
Hot water (DHW): ON
Circulation: Switch time

In the setback mode, the heating heats up to a set reduced temperature.
Within the switch times, the DHW cylinder is heated to the set hot water temperature; outside the switch time the DHW cylinder is not heated up.
Within the switch times, the circulation pump (if fitted) is switched on.

- Turn the left-hand dial until the arrow is next to the **Setback mode** ☽ symbol.

4.4.4 Setting stand-by mode

Heating: OFF
Hot water (DHW): OFF
Circulation: OFF
Frost protection: active

In stand-by mode, the heating and the hot water generation are switched off.
The circulation pump (if fitted) is switched off.
The frost protection function is active.
The pumps of the heating system are started at regular intervals in order to prevent the mechanical parts from seizing up.

- Turn the left-hand dial until the arrow is next to the **Stand-by mode** symbol ⏻.

Heating: ON
Hot water (DHW): ON

4.4.5 Setting the maximum output mode

The maximum output mode is only required for flue gas measurement.
In maximum output mode the heating system runs at maximum heating output (full load operation). In full load operation, the heating is heated up to the maximum set temperature and the DHW cylinder is heated up to the set hot water temperature.
In full load operation the chimney inspector can carry out the necessary flue gas measurements.
The maximum output mode is ended automatically either after 15 minutes or after the maximum flow temperature is exceeded.
You can only activate the maximum output mode with the BM programming module if the module is installed in the boiler.

- Turn the left-hand dial until the arrow is next to the **Maximum output mode** symbol .

4.4.6 Temporary room temperature adaptation

Using the right-hand dial, you can change the room temperature for a short period without having to change the day temperature.
This change raises or lowers the day temperature **and** the setback temperature.

Setting range: -4 to +4 in 0.5 steps

- Turn the right-hand dial until the arrow is next to the desired temperature correction value.

+2
▸ +1 Correction by approx. +1 °C
0

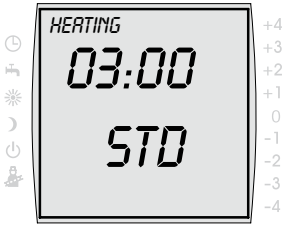
▸ +2
▸ +1 Correction by approx. +1.5 °C
0

If the correction is not adequate for your needs, then adjust the day temperature (→ Setting the day temperature).
If the room influence function is not set (BM programming module installed as a remote control), the set room temperature only represents an approximate value (→ Setting the room influence).

4.5 Starting the heating

Use the **Heating** special function in order not to have to change the programmed switch times for the heating on public holidays, days of sickness or in holiday periods. The **Heating** special function bypasses all set time programmes or operating modes and switches the boiler on. The heating mode can be set for a period of one hour to 30 days. The heating heats up to the set room temperature (day temperature). After the selected time period has elapsed, the boiler switches back to the previously set operating mode.
Within the switch times, the DHW cylinder is heated up to the set hot water temperature.

- Press the **Heating** button.



- Select the period in which the heating should heat to the day temperature by turning the right-hand dial.
  Setting range: 0-23 hours or 1-30 days
- Confirm the time for the heating mode by pressing the right-hand dial.

Factory setting: 3 hours
Setting range: 0-23 hours or 1-30 days

After a few seconds, the display switches back to the basic display. In the status display, the **Heating mode** symbol ✳ flashes.

- To terminate the **Heating** special function prematurely, press the **Reduce** button.

4.6 Starting reduction

Use the **Reduce** special function in order not to have to change the programmed switch times for heating and hot water generation if you are away for extended periods or on holiday.
The **Reduce** special function bypasses all set time programmes or operating modes and switches the boiler to setback operation. The setback mode can be set for a period of one hour to 30 days. After the selected time period has elapsed, the boiler switches back to the previously set operating mode.
Within the switch times, the DHW cylinder is heated up to the set hot water temperature.

- Press the **Reduce** button.

- Select the period in which the heating should heat in the setback mode by turning the right-hand dial.
  Setting range: 0-23 hours or 1-30 days
- Confirm the time for setback operation by pressing the right-hand dial.

Factory setting: 3 hours
Setting range: 0-23 hours or 1-30 days

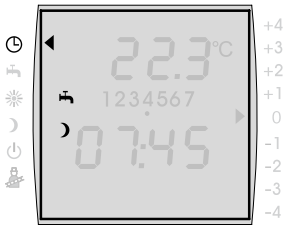
After a few seconds, the display switches back to the basic display. In the status display, the **Setback mode** symbol ☽ or the **Stand-by mode** symbol ⏻ **flashes** when the ECO-RED function switches the boiler to the stand-by mode.

- To terminate the **Reduce** special function prematurely, press the **Heating** button.

4.7 Starting the 1x DHW function

The **1x DHW** special function bypasses the programmed switch times and heats the DHW cylinder on a single occasion, for one hour, to the set hot water temperature.

▶ Press the **1x DHW** button.



After a few seconds, the display switches back to the basic display. In the status display, the **Hot water** symbol flashes.
The DHW cylinder is heated up to the set hot water temperature for one hour.

▶ To terminate the **1x DHW** special function prematurely, press the **1x DHW** button.

4.8 Displaying information

Using the **Info** button you can display information concerning all available set/actual temperatures, burner starts and operating hours, in addition to other system values.
The first value is displayed when you press the **Info** button. If you press the Info button again, or if you turn the right-hand dial, the following values are displayed, provided that the relevant sensors are connected.
Only the values from connected components are displayed.
If additional BM programming modules are integrated in the Wolf control system, or are installed as remote controls, then the individual parameters are displayed.

- Press the **Info** button.

- Press the **Info** button or turn the right-hand dial to display further information.

An overview of the parameters that can be displayed can be found in the appendix to this operating manual.

5 Basic settings

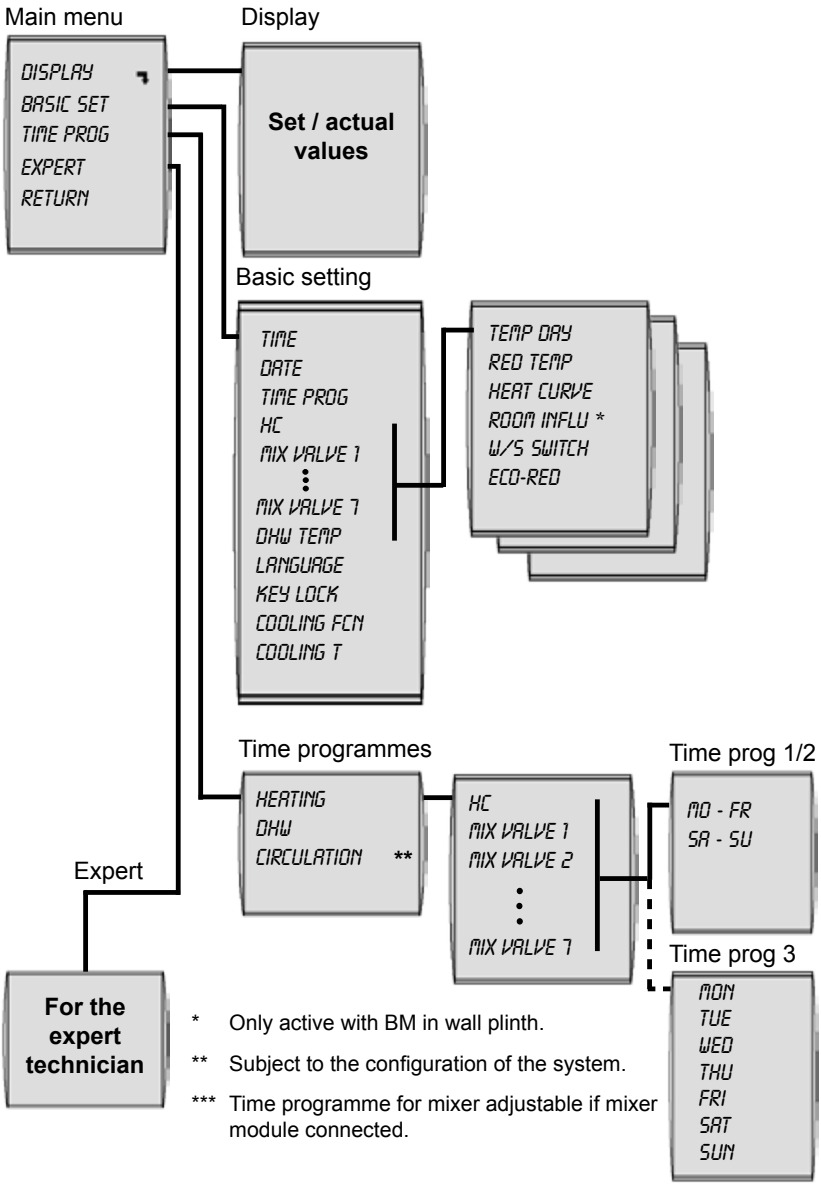
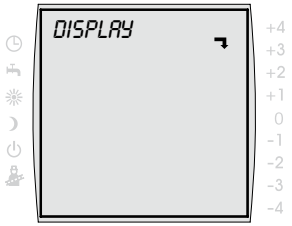
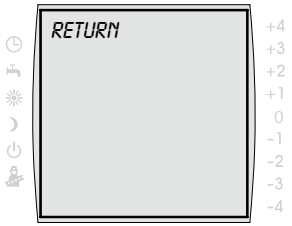


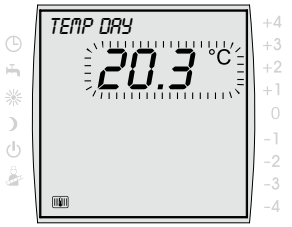
Fig. 5.1 Menu structure of the BM programming module



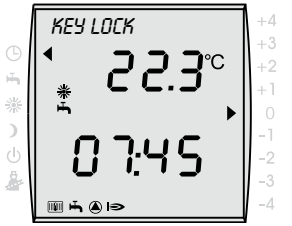
If this arrow ↴ appears in the display then there is a sub-menu.



If you press the right-hand dial when at the *RETURN* menu point, you will return to the calling menu.



If a value can be set then the adjustable value flashes in the display.



If the display shows *KEY LOCK*, then the key lock is activated.

- ▶ You can temporarily deactivate the key lock by pressing the right-hand dial for about 2 seconds.

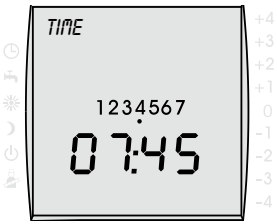
5.1 Setting the time (winter/summer time)

The BM programming module only automatically sets the time and day if a radio-controlled clock module is connected.

- Ask your heating engineer whether he has fitted a radio-controlled clock module with outside sensor.

Winter/summertime changeover
The time is automatically changed over to summer or wintertime; see also system parameter A20.

- Press the right-hand dial.
- Turn the right-hand dial to the *BASIC SET* menu.
- Press the right-hand dial.



Setting range: 0:00-23:59

- Turn the right-hand dial to the *TIME* menu.
- Press the right-hand dial.
- Adjust the time by turning the right-hand dial.
  Turn slowly = change the minutes
  Turn quickly = change the hours
- Confirm the entry by pressing the right-hand dial.

You go back to the basic display by pressing the **Info** button.

If the BM programming module is without power for longer than 48 hours, then you will need to reset the time and day.

5.2 Setting the date

Factory setting: ---
Setting range: 01/01/2011 to 31/12/2099

Setting the date
This setting always follows the same pattern: first select the day, then the month, and finally the year.

- ▶ Press the right hand dial.
- ▶ Turn the right hand dial until you reach the menu *BASIC SET.*
- ▶ Press the right hand dial.

- ▶ Turn the right hand dial until you reach the menu *DATE*.
- ▶ Press the right hand dial.
- ▶ Set the date.
- ▶ Confirm the entry by pressing the right hand dial.

Return to the basic display by pressing the **Info** button.

5.3 Setting the day temperature (Heating)

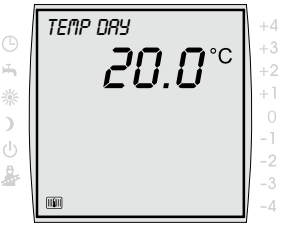
You set the desired room temperature within the switching times with the day temperature.
Change the day temperature preferably using the temperature correction (→ Room temperature temporary adaptation).
If the room influence function is not set (BM programming module installed as a remote control), the set room temperature only represents an approximate value (→ Setting the room influence).

If the BM programming module is installed as a remote control, then open up all the thermostatic valves in the room.

- Press the right-hand dial.
- Turn the right-hand dial to the *BASIC SET* menu.
- Press the right-hand dial.

If a heating circuit and one or more mixer circuits are connected (e.g. radiator and underfloor heating) then first select the relevant heating or mixer circuit.

- Turn the dial to the *HC* or *MK1 … MK7* sub-menu.
- Press the right-hand dial.



Factory setting: 20 °C
Setting range: 5-30 °C

- Turn the right-hand dial to the *TEMP DAY* sub-menu.
- Press the right-hand dial to change the temperature.
- Select the day temperature by turning the right-hand dial.
- Confirm the day temperature by pressing the right-hand dial.

You go back to the basic display by pressing the **Info** button.

5.4 Setting the hot water temperature

Using the hot water temperature function, you can adjust the temperature to which the DHW cylinder is heated up to by the boiler.

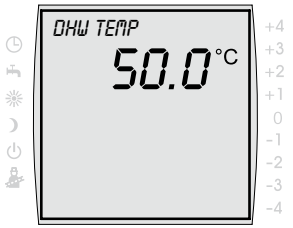
Danger!
Danger of scalding by hot water with solar hot water generation!
With solar hot water generation the hot water temperature can be hotter than 90 °C and can cause scalding.

- ▶ Ask your heating engineer for a suitable temperature limiter.

Danger!
Danger of scalding by hot water!
Water temperatures in excess of 65 °C can cause scalding.

- ▶ Do not set the hot water temperature above 60 °C.

- ▶ Press the right-hand dial.
- ▶ Turn the right-hand dial to the *BASIC SET* menu.
- ▶ Press the right-hand dial.



Factory setting: 50 °C
Setting range: 15-65 °C

- ▶ Turn the right-hand dial to the *DHW TEMP* sub-menu.
- ▶ Press the right-hand dial to change the temperature.
- ▶ Select the hot water temperature by turning the right-hand dial.
- ▶ Confirm the hot water temperature by pressing the right-hand dial.

You go back to the basic display by pressing the **Info** button.

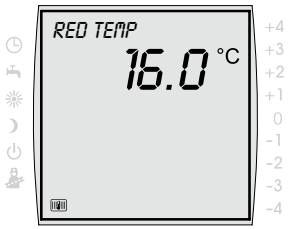
5.5 Setting the reduced temperature (reduction)

The reduced temperature is the temperature to which the heating circuit/ room temperature is heated to outside the switching times (→ Programme the switching times, heating times), e.g. at night or when you are away or in setback mode.
If the room influence function is not set (BM programming module installed as a remote control), the set room temperature only represents an approximate value (→ Setting the room influence).

- ▶ Press the right-hand dial.
- ▶ Turn the right-hand dial to the *BASIC SET* menu.
- ▶ Press the right-hand dial.

If a heating circuit and one or more mixer circuits are connected (e.g. radiator and underfloor heating) then first select the relevant heating or mixer circuit.

- ▶ Turn the dial to the *HC* or *MK1 … MK7* sub-menu.
- ▶ Press the right-hand dial.



Factory setting: 16 °C
Setting range: 5-30 °C

- ▶ Turn the right-hand dial to the *RED TEMP* sub-menu.
- ▶ Press the right-hand dial to change the temperature.
- ▶ Select the reduced temperature by turning the right-hand dial.
- ▶ Confirm the reduced temperature by pressing the right-hand dial.

You go back to the basic display by pressing the **Info** button.

5.6 Switch times

The switch times are available in the automatic timer mode and Summer mode.
You can set the times at which the heating system heats to the desired room temperature (day temperature).
You can programme times at which the DHW cylinder is heated to a specific hot water temperature.
You can programme times at which the circulation pump (if fitted) is switched on.

The switch times for the heating, hot water generation and the circulation pump (if fitted) are set in two steps.

First decide whether the switch times are to be programmed for the day blocks Mo-Fr and Sa-Su or for each day individually.
You can then programme the switch times to meet your wishes.

Three switch times are available for each day block or day.

You can programme individual switch times for the heating circuit, each additional mixer circuit, the hot water generation and the circulation pump.

Three switch time programmes are pre-programmed in the factory.

5.6.1 Pre-programmed switch times

Time prog.	Block	Switch time	HC		Mix valve		Hot water (DHW)		Circulation	
			ON	OFF	ON	OFF	ON	OFF	ON	OFF
Time prog. 1	Mo-Fr	1	6:00	22:00	5:00	21:00	5:30	22:00	6:00	6:30
		2							17:00	18:30
		3								
	Sa-Su	1	7:00	23:00	6:00	22:00	6:30	23:00	6:30	7:00
		2							11:00	12:00
		3							17:00	18:30
Time prog. 2	Mo-Fr	1	6:00	8:00	5:00	7:00	5:00	6:00	6:00	6:15
		2	15:00	22:00	14:00	21:00	17:00	18:00		
		3								
	Sa-Su	1	7:00	22:00	6:00	21:00	6:00	7:00	6:30	6:45
		2					16:00	21:00	16:30	17:00
		3								
Time prog. 3	Mon	1	5:30	21:00	4:30	20:00	5:00	7:00	6:00	6:30
		2					15:00	21:00	17:00	17:30
		3								
	Tue	1	5:30	21:00	4:30	20:00	5:00	7:00	6:00	6:30
		2					15:00	21:00	17:00	17:30
		3								
	Wed	1	5:30	21:00	4:30	20:00	5:00	7:00	6:00	6:30
		2					15:00	21:00	17:00	17:30
		3								
	Thu	1	5:30	21:00	4:30	20:00	5:00	7:00	6:00	6:30
		2					15:00	21:00	17:00	17:30
		3								
	Fri	1	5:30	21:00	4:30	20:00	5:00	7:00	6:00	6:30
		2					15:00	21:00	17:00	17:30
		3								
	Sat	1	5:30	21:00	4:30	20:00	5:00	7:00	6:00	6:30
		2					15:00	21:00	17:00	17:30
		3								
	Sun	1	5:30	21:00	4:30	20:00	5:00	7:00	6:00	6:30
		2					15:00	21:00	17:00	17:30
		3								

Table A.2 Pre-programmed switch times

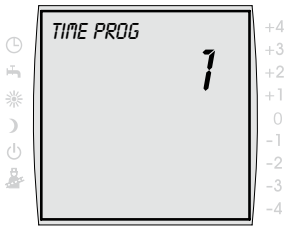
5.6.2 Selecting the timer programme

Using the timer programme you specify whether the switch times are to be programmed for the day blocks Mo-Fr and Sa-Su or for each day individually.

- Press the right-hand dial.
- Turn the right-hand dial to the *BASIC SET* menu.
- Press the right-hand dial.

If a heating circuit and one or more mixer circuits are connected (e.g. radiator and underfloor heating) then first select the relevant heating or mixer circuit.

- Turn the dial to the *HC* or *MK1 … MK7* sub-menu.
- Press the right-hand dial.



Factory setting: 1
Setting range: 1/2/3

- Turn the right-hand dial to the *TIME PROG* entry.
- Press the right-hand dial to change the timer programme.
- Select the timer programme by turning the right-hand dial.
  - *1* = Mo-Fr and Sa-Su
  - *2* = Mo-Fr and Sa-Su
  - *3* = Mon, Tue, Wed, Thu, Fri, Sat, Sun
- Confirm the timer programme by pressing the right-hand dial.

You go back to the basic display by pressing the **Info** button.

5.6.3 Programming heating times

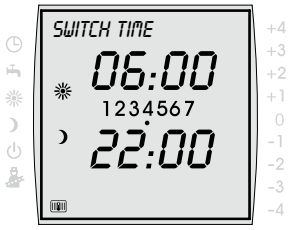
The heating times are used to specify when the heating is switched on and off in the Automatic timer mode.

- ▶ Press the right-hand dial.
- ▶ Turn the right-hand dial to the *TIME PROG* menu.
- ▶ Press the right-hand dial.
- ▶ Turn the right-hand dial to the *HEATING* menu.

If a heating circuit and one or more mixer circuits are connected (e.g. radiator and underfloor heating) then first select the relevant heating or mixer circuit.

- ▶ Turn the dial to the *HC* or *MK1 … MK7* sub-menu.
- ▶ Press the right-hand dial.

- ▶ Select the day/day block by turning the right-hand dial.
- ▶ Press the right-hand dial.
- ▶ Select the switch time by turning the right-hand dial.
- ▶ Confirm the selection by pressing the right-hand dial.
- ▶ Set the start time ☼ by turning the right-hand dial.
- ▶ Confirm the start time by pressing the right-hand dial.
- ▶ Set the end time ☽ by turning the right-hand dial.
- ▶ Confirm the end time by pressing the right-hand dial.



Setting range: 00:00-00:00
in 15 min steps

You go back to the basic display by pressing the **Info** button.

Always programme the switch times one after the other.
Switch time 1: 06:00 – 10:00
Switch time 2: 15:00 – 22:00

Times which include midnight must be programmed in time programmes 1 and 2 per the following example: The heating should run from 16:00 to 03:00 on the following day in time programme 1. This means that you should set the following times:
Switch time 1: 00:00 – 03:00
Switch time 2: 16:00 – 24:00

You go back to the basic display by pressing the **Info** button.

5.6.4 Programming hot water times

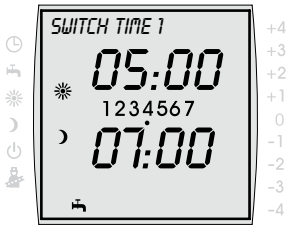
Using the hot water times you can specify at which times the hot water is available at the set hot water temperature.
The DHW cylinder is not heated up by the boiler outside the switch times.

If you have a heating system with solar assistance, then the DHW cylinder is also heated up outside the switch times, provided that solar energy is available.

- Press the right-hand dial.
- Turn the right-hand dial to the *TIME PROG* menu.
- Press the right-hand dial.

- Turn the right-hand dial to the *HOT WATER (DHW)* menu.

- Select the day/day block by turning the right-hand dial.
- Press the right-hand dial.
- Select the switch time by turning the right-hand dial.
- Confirm the selection by pressing the right-hand dial.
- Set the start time ☼ by turning the right-hand dial.
- Confirm the start time by pressing the right-hand dial.
- Set the end time ☽ by turning the right-hand dial.
- Confirm the end time by pressing the right-hand dial.



Setting range: 00:00-00:00
in 15 min steps

You go back to the basic display by pressing the **Info** button.

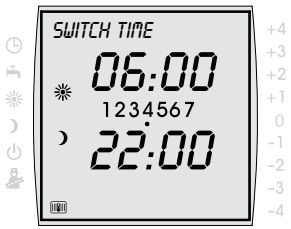
5.6.5 Programming the circulation pump times

Using the circulation pump times, you can stipulate at which times the circulation pump (if fitted) circulates the hot water in the pipes.

- ▶ Press the right-hand dial.
- ▶ Turn the right-hand dial to the *TIME PROG* menu.
- ▶ Press the right-hand dial.

- ▶ Turn the right-hand dial to the *CIRCULATION* menu.

- ▶ Select the day/day block by turning the right-hand dial.
- ▶ Press the right-hand dial.
- ▶ Select the switch time by turning the right-hand dial.
- ▶ Confirm the selection by pressing the right-hand dial.
- ▶ Set the start time ✳ by turning the right-hand dial.
- ▶ Confirm the start time by pressing the right-hand dial.
- ▶ Set the end time ☽ by turning the right-hand dial.
- ▶ Confirm the end time by pressing the right-hand dial.



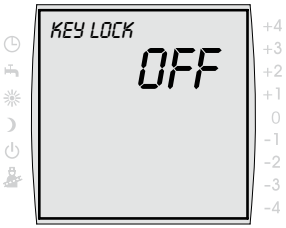
Setting range: 00:00-00:00
in 15 min steps

You go back to the basic display by pressing the **Info** button.

5.7 Setting the key lock

The key lock prevents inadvertent alteration of the settings on the BM programming module.

- ▶ Press the right-hand dial.
- ▶ Turn the right-hand dial to the *BASIC SET* menu.
- ▶ Press the right-hand dial.



Factory setting: OFF
Setting range: ON/OFF

- ▶ Turn the right-hand dial to the *KEY LOCK* sub-menu.
- ▶ Press the right-hand dial to switch the key lock on or off.
- ▶ Select the setting by turning the right-hand dial.
  ON = key lock on
  OFF = key lock off
- ▶ Confirm the setting by pressing the right-hand dial.

The key lock is activated approx. 1 minute after the last adjustment.

You go back to the basic display by pressing the **Info** button.

If the key lock is set then *KEY LOCK* appears in the display as soon as a key or a dial is actuated.

- ▶ You can temporarily deactivate the key lock by pressing the right-hand dial for about 1 second.

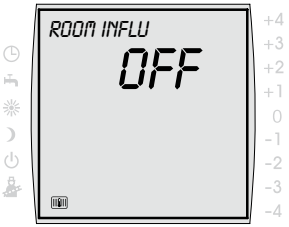
5.8 Setting the room influence

The **Room influence** is only active if the BM programming module is installed as a remote control and if you have set the **Room influence** function.
The room influence should only be changed in consultation with your heating engineer.
The room influence function is used to compensate for room temperature changes caused by extraneous heat or cold (e.g. direct sunlight, stoves or open windows).

- Press the right-hand dial.
- Turn the right-hand dial to the *BASIC SET* menu.
- Press the right-hand dial.

If a heating circuit and one or more mixer circuits are connected (e.g. radiator and underfloor heating) then first select the relevant heating or mixer circuit.

- Turn the dial to the *HC* or *MK1 … MK7* sub-menu.
- Press the right-hand dial.



Factory setting: OFF
Setting range: ON/OFF

- Turn the right-hand dial to the *ROOM INFLU* sub-menu.
- Press the right-hand dial to switch the room influence function on or off.
- Select the setting by turning the right-hand dial.
  ON = room influence on
  OFF = room influence off
- Confirm the setting by pressing the right-hand dial.

You go back to the basic display by pressing the **Info** button.

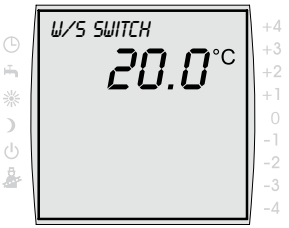
5.9 Setting the winter/summer changeover

The **winter/summer changeover** function is only active if an outside sensor is connected.
The winter/summer changeover should only be changed in consultation with your heating engineer.
The winter/summer changeover function optimises the times at which the heating heats to the day temperature.
If the average outside temperature is in excess of the set winter/summer temperature, then the heating switches to the Stand-by mode.
If the average outside temperature is below the set winter/summer temperature, then the heating switches to the Automatic timer mode.
The period for calculation of the average outside temperature is set by your heating engineer.

- ▶ Press the right-hand dial.
- ▶ Turn the right-hand dial to the *BASIC SET* menu.
- ▶ Press the right-hand dial.

If a heating circuit and one or more mixer circuits are connected (e.g. radiator and underfloor heating) then first select the relevant heating or mixer circuit.

- ▶ Turn the dial to the *HC* or *MK1 … MK7* sub-menu.
- ▶ Press the right-hand dial.



Factory setting: 20 °C
Setting range: 0-40 °C

- ▶ Turn the right-hand dial to the *W/S SWITCH* sub-menu.
- ▶ Press the right-hand dial to change the temperature.
- ▶ Select the temperature for the winter/summer changeover by turning the right-hand dial.
- ▶ Confirm the temperature for the winter/summer changeover by pressing the right-hand dial.

You go back to the basic display by pressing the **Info** button.

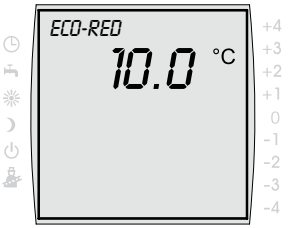
5.10 Setting ECO-RED

Using the ECO-RED temperature you can stipulate an outside temperature from which the heating is switched on or off in the setback mode.
The ECO-RED setting should only be changed in consultation with your heating engineer.

- ▶ Press the right-hand dial.
- ▶ Turn the right-hand dial to the *BASIC SET* menu.
- ▶ Press the right-hand dial.

If a heating circuit and one or more mixer circuits are connected (e.g. radiator and underfloor heating) then first select the relevant heating or mixer circuit.

- ▶ Turn the dial to the *HC* or *MK1 … MK7* sub-menu.
- ▶ Press the right-hand dial.



Factory setting: 10 °C
Setting range: -10-40 °C

- ▶ Turn the right-hand dial to the *ECO-RED* sub-menu.
- ▶ Press the right-hand dial to change the temperature.
- ▶ Select the ECO-RED temperature by turning the right-hand dial.
- ▶ Confirm the ECO-RED temperature by pressing the right-hand dial.

You go back to the basic display by pressing the **Info** button.

5.11 Setting the heating curve

The *GRADIENT* sub-menu is only displayed in systems with an outside sensor connected.

The day temperature is controlled indirectly via a heating curve. The heating curve represents the relationship between the outside temperature and the flow temperature.
The flow temperature is the temperature of the heating water as it leaves the boiler.
The heating curve can be set individually for the heating circuit and one or more mixer circuits.

The required basic setting to the heating curve has been carried out by your heating engineer when installing the heating system.

Caution!
Danger of damage caused by high flow temperatures!
Flow temperatures in excess of 40 °C with underfloor heating can cause damage to the floor covering.

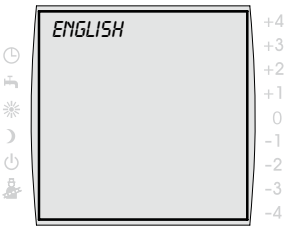
- With underfloor heating the heating curve should be set to a maximum of 0.8.
- Set the heating curve so that the flow temperature does not rise above 40 °C.
- The heating curve should only be changed in consultation with your heating engineer.

You go back to the basic display by pressing the **Info** button.

5.12 Setting the language

You can change the language setting of the BM programming module.

- ▶ Press the right-hand dial.
- ▶ Turn the right-hand dial to the *BASIC SET* menu.
- ▶ Press the right-hand dial.



Factory setting: English

- ▶ Turn the right-hand dial to the *LANGUAGE* sub-menu.
- ▶ Press the right-hand dial to change the language.
- ▶ Select the language by turning the right-hand dial.

You can select from the following:
English, French, Dutch, Spanish, Portuguese, Italian, Czech, Polish, Slovakian, Hungarian, Russian, Greek, Turkish, Bulgarian, Croatian, Latvian, Lithuanian, Romanian, Swedish, Serbian, Slovenian, Danish, Estonian

- ▶ Confirm the selection by pressing the right-hand dial.

You go back to the basic display by pressing the **Info** button.

5.13 Selecting the cooling function with heat pump

If linked to a Wolf heat pump and BKM cooling module, the BM can be used to enable a cooling function for a heating circuit. The cooling function only applies to heating circuits which have a separate programming module allocated to them via the address. Cooling is enabled for a heating circuit if none of the heating circuits in the system calls for heating energy, the relevant programming module is in summer mode and the actual room temperature is ≥ the set room temperature for cooling (= cooling temperature). In addition, the symbol "☼" is displayed in the programming module. In automatic timer mode, a time program or programmed switching time must be enabled for heating.

Factory setting: OFF
Setting range: ON/OFF

- ▶ Press the right hand dial.
- ▶ Turn the right hand dial until you reach the menu *BASIC SET*.
- ▶ Press the right hand dial.

- ▶ Turn the right hand dial until you reach submenu *COOLING FCN.*
- ▶ To change the cooling function, press the right hand dial.
- ▶ Select the cooling function by turning the right hand dial.

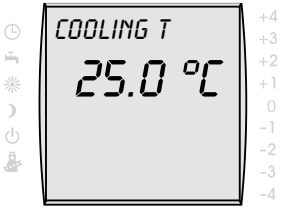
Available options are:

ON = cooling functions switched on
OFF = cooling functions switched off

- ▶ Confirm the selection by pressing the right hand dial.

Return to the basic display by pressing the **Info** button.

5.14 Setting the cooling temperature



Factory setting: 25 °C
Setting range: 5 to 35 °C

If linked to a Wolf heat pump and BKM cooling module, the BM can be used to enable a cooling function for a heating circuit and to set the cooling temperature.

- ▶ Press the right hand dial.
- ▶ Turn the right hand dial until you reach the menu *BASIC SET*.
- ▶ Press the right hand dial.

- ▶ Turn the right hand dial until you reach submenu *COOLING T.*
- ▶ To change the cooling temperature, press the right hand dial.
- ▶ Select the cooling temperature by turning the right hand dial.

- ▶ Confirm the selection by pressing the right hand dial.

Return to the basic display by pressing the **Info** button.

6 Energy saving tips

Room temperature (day temperature)
Set the room temperature to a level that you feel as being just comfortable. One degree increase in the room temperature means an increase in energy consumption of about 6 %.
Do not heat rarely used rooms or bedrooms continuously as you do with rooms that are in use.

Efficient heating
All rooms in the house or apartment should be heated. An individually heated room also heats the adjoining rooms. Heat the rooms according to their use. Maintain a minimum temperature in all the rooms. In unheated rooms, humidity can condense on the walls and consequently damage the structure of the building.

Thermostatic valves
Thermostatic valves maintain the set temperature. They automatically open if the room temperature is low and close at a higher temperature.
All the thermostatic valves in the room where the BM programming module is installed should be fully open, since otherwise the thermostatic valves and the programming module will influence each other.

Heating system service
Deposits of rust in the burner chamber of a boiler or a badly adjusted burner can easily reduce the efficiency of a heating system by 5 % or more. Regular service of the system by a specialist heating company will soon pay for itself.

Freely accessible radiators
The air must be capable of circulating well in the vicinity of the radiator, otherwise the efficiency of the heating will be reduced.
Modern radiators emit part of the heat as radiated heat. Long curtains or incorrectly placed furniture can absorb up to 20 % of the heat.

Leave the heat in the room - even at night!
Closing roller shutters and drawing curtains noticeably reduces the loss of heat at night from the room via the window areas. Insulating the radiator recesses and painting the wall a light colour will save up to 4 % of the heating costs. Even tight seals on windows and doors retain the energy in the room.

Ventilation
Ventilate the rooms by turning the thermostatic valves down and open the windows in the room, or better still in the whole apartment, to produce a so-called through-draught ventilation. The short and effective ventilation process just changes the air in the room and the furniture and walls soon return their stored heat to the cool air again.

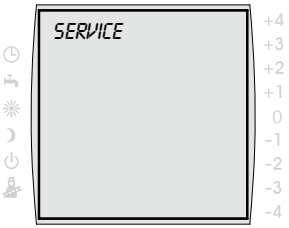
Bleeding the radiators
Regular bleeding of the radiators in all the rooms - particularly in the upper apartments in houses with multiple-occupancy, ensures perfect functioning of the radiators and thermostatic valves. The radiator reacts quickly to changes in heat demand.

Setback operating mode, reduced temperature
Set the reduced temperature just 5 °C lower than the room temperature (day temperature). If you set the setback temperature lower, then you will lose the saving effect by having to expend a large amount of energy in order to heat the rooms back up again. Only if you are away for an extended period, e.g. on holiday, is it worth setting the setback temperature lower.

Circulation pump
The circulation pump circulates the hot water in the piping network. This ensures that hot water is immediately available at the draw-off points.

7 Messages and faults

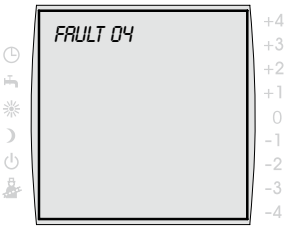
7.1 Service



After a specific time period, which is set by your heating engineer, the display on the BM programming module shows the *SERVICE* message.

- ▶ Consult your heating engineer for the maintenance of your heating system.

7.2 Fault



Example

A fault in the heating system can be detected by the illuminated ring on the control system flashing red. The heating engineer can quickly identify the fault using a fault code table and the BM programming module.

- ▶ In the event of a fault, observe the instructions in the operating manual for your boiler.
- ▶ In the event of a fault in your heating system, consult your heating engineer.

7.2.1 Message on the boiler

Illuminated ring display	Meaning
Flashing green	Ready (mains switched on, no heat demand)
Continuous green light	Heat demand: pump running, burner off
Yellow flashing	Maximum output mode
Constant yellow light	Burner on, flame on
Red flashing	Fault

Tab. 7.1 Meaning of illuminated ring on boiler

8 Technical data

Designation	
eBUS supply voltage	15-24 V
Power consumption	max. 0.5 W
Wall plinth protection rating	IP 30
Boiler protection rating	as per control system protection rating
Running reserve	> 48 hours
Ambient temperature	0 - 50 °C
Data retention	EEPROM permanent
CE marking	Electromagnetic Compatibility Directive (Directive 2004/108/EU) Low Voltage Directive (Directive 2006/95/EU)

Tab. 8.1 Technical data

Appendix

Table of Info button displays

Displays for the **Info** button or the *DISPLAY* menu

Display		Name
DHW TEMP		Hot water ACTUAL temperature -heating (°C) Hot water SET temperature -heating (°C)
SOLAR DHW 1	*	Hot water ACTUAL temperature solar cylinder 1 (in °C)
DHW SOL 24 H	*	Maximum temperature, solar cylinder sensor 1 (°C) Minimum temperature, solar cylinder sensor 1 (°C)
COLLECTOR 1	*	Collector temperature, solar system collector array 1 (°C)
COLLECT 24 H	*	Maximum temperature, solar system collector array 1 (°C) Minimum temperature, solar system collector ray 1 (°C)
RETURN	*	Solar system return temperature (°C)
FLOW RATE	*	Solar circuit flow rate (l/min.)
SOLAR DHW 2	*	Hot water ACTUAL temperature, solar cylinder 2 (°C)
DHW SOL 24H	*	Maximum temperature, solar cylinder sensor 2 (°C) Minimum temperature, solar cylinder sensor 2 (°C)
COLLECTOR 2	*	Collector temperature, solar system collector array 2 (°C)
COLLECT 24 H	*	Maximum temperature, solar system collector array 2 (°C) Minimum temperature, solar system collector ray 2 (°C)
SOLAR DHW 3	*	Hot water ACTUAL temperature solar cylinder 3 (in °C)
DHW SOL 24 H	*	Maximum temperature, solar cylinder sensor 3 (°C) Minimum temperature, solar cylinder sensor 3 (°C)

Table A.1 Display (continued on next page)

Display		Name
OPERATION H 1	*	Operating hours solar circuit pump 1 (h.) **
OPERATION H 2	*	Operating hours solar circuit pump 2 (h.) **
OPERATION H 3	*	Operating hours solar circuit pump 3 (h.) **
SOL. OUTPUT	*	Current output, solar system (kW)
OUTPUT 24 H	*	Current output 24 h, solar system (kW) **
Σ*OUTPUT KWH*	*	Total output, solar system (kWh) **
Σ*OUTPUT MWH*	*	Total output, solar system (MWh) **
SOL STATUS 1	*	Hot water charging, solar cylinder 1 Anti-legionella function, solar cylinder 1 (0 = not successful / 1 = successful)
SOL STATUS 2	*	Hot water charging, solar cylinder 2 Anti-legionella function, solar cylinder 2 (0 = not successful / 1 = successful)
SOL STATUS 3	*	Hot water charging, solar cylinder 3 Anti-legionella function, solar cylinder 3 (0 = not successful / 1 = successful)
OUT TEMP		Outside temperature (°C)
ES AVERAGE		Outside temperature average (°C)
ES MAX MIN		Outside temperature maximum value (°C; 0 to 24 h) Outside temperature minimum value (°C; 0 to 24 h)
ROOM TEMP		Room temperature ACTUAL value (°C) Room temperature SET value (°C)

Table A.1 Display **(continued on next page)**

Display	Name
ROOM TEMP 1 (*2-7*) *	Room temperature ACTUAL value, mixer circuit 1 (2-7) (°C) Room temperature SET value, mixer circuit 1 (2-7) (°C)
MODE HC	Heating circuit operating mode (Sun, Moon, Stand-by)
HEADER TEMP *	Header ACTUAL temperature (°C) Header SET temperature (°C)
BOILER TEMP	Boiler ACTUAL temperature (°C) Boiler SET temperature (°C)
MIX VALVE 1 (*2-7*) *	Mixer ACTUAL temperature 1 (2-7) (°C) Mixer SET temperature 1 (2-7) (°C) Mixer circuit operating mode (Sun, Moon, Stand-by)
RETURN	Return ACTUAL temperature (°C)
STATUS HG	Boiler status (→ Operating manual for the boiler)
BURN RUN H	Burner operating hours
BURN START	Boiler burner starts

Table A.1 Display (continued)

* Only the values from connected modules (mixer module MM, cascade module KM, solar module SM) are displayed.

** The displays can be reset to **Zero** by holding the right-hand dial down for approx. 10 seconds.

Boiler (HG) status table

HG status	Explanation	Notes
0	Standby	
1	Emissions test mode	Max. 30 min
2	Soft start	Approx. 3 min
3	Heat demand (heating mode)	
5	Heat demand with cycle block	
6	Cycle block	See HG 09
7	Frost protection, central heating	See A 09
8	Soft starter	See HG 26
11	DHW drawing	For combi boilers
12	DHW drawing run-on	1 min.
13	Minimum combi time	Still in DHW mode
14	DHW quick start, reheating	See HG 11
15	Cylinder operation	For boilers
16	Frost protection, cylinder	< + 5 K
17	Pump run-on, cylinder	See HG 19
18	Dry run	Poss. pump
19	dt output reduction	Fan speed
20	Cylinder parallel mode	See A 10
21	Max. cylinder heating time exceeded	See HG 20, MI 09
22	Sensor operating mode 2, contact closed	See HG 24
23	Sensor operating mode 3, contact closed	See HG 24
24	Off period, flue gas monitoring	15 min.

Parameter overview - basic settings

Parameters	Setting range	Factory setting	Individual setting
Time	0 to 24 h	-	
Date	01/01/2011 to 31/12/2099	-	
Time programme	1 / 2 / 3	1	
Temp day	5 to 30 °C	20 °C	
Reduced temperature	5 to 30 °C	16 °C	
Heating curve (HC) heating circuit (MI 1-7) mixer circuits	 0 to 3.0 0 to 3.0	 1.2 0.8	
Room influence	ON/OFF	OFF	
Winter/summer changeover	0 to 40 °C	20 °C	
ECO-RED	-10 to 40 °C	10 °C	
Hot water temperature Free-standing boiler Wall-mounted boilers with cylinders Wall-mounted combi-units	 15 to 65 °C 15 to 65 °C 40 to 65 °C	 50 °C 50 °C 50 °C	
Language	English* → "Setting the language"	English	
Key lock	ON/OFF	OFF	
Cooling function	ON/OFF	OFF	
Cooling temperature	5 to 35 °C	25 °C	

Table A.3 Parameter overview - basic settings

Glossary

Anti-legionella function
Legionella are a type of bacteria which can cause serious illness. Legionella can form and reproduce if tap water is exposed to long dwell times at 25 °C to 50 °C. This can occur in DHW cylinders. The anti-legionella function can kill any bacteria in the hot water by short-term heating to temperatures in excess of 65 °C.

Cascade
A cascade is a parallel arrangement of several boilers in order to achieve a higher overall output.

Circulation pump
The circulation pump circulates the water heated in the DHW cylinder in a circulation pipe in order to be able to use hot water quickly at large distances from a central hot water generator. In order to save energy, you can switch the pump off during times at which no hot water is required.

Cylinder charging
Cylinder charging signifies the heating up of an indirectly heated storage tank hot water heater. To this end, a cylinder charging pump transports the boiler water, and thus the heating heat, to the heat exchanger of the DHW cylinder.

eBUS
eBUS is a protocol for networking of components of a heating system with the aim of facilitating central control of the entire heating system.

ECO-RED
The ECO-REDUCTION function effects automatic switching on or off of the heating during setback operation if the average outside temperature exceeds or falls below a specified value, for example if there are high outside temperatures during the night.

Expert level
The setting facilities in the expert level are reserved for the heating engineer. This facility serves to ensure your safety, since incorrect entries can cause injury or damage to the heating system.

Flow temperature
The flow temperature designates the temperature of the heating water flowing to the radiator. It lies between 35 °C and 70 °C (depending on the outside temperature) in outside temperature controlled heating control systems. In heating systems with simple surface heating, 25 °C to 40 °C is adequate. In heating systems without a mixer circuit, the flow temperature is the same as the temperature of the boiler water.

Frost protection
The heating engineer sets a temperature value on the BM programming module, below which the boiler goes into the frost protection function. If the outside temperature falls below the set value then the boiler circulation pump will run continuously. If the boiler water temperature falls below 5 °C, then the burner switches on and heats up to the minimum boiler temperature.

Heating circuit
A heating circuit is an enclosed system for heat distribution. It consists of radiators or underfloor heating, the associated valves and the pipes for the flow and return.

Heating curve
The heating curve describes the relationship between the outside temperature and the flow temperature that is required to achieve the desired room temperature.

Heating mode
In the heating mode the room temperature is held at around the day temperature value at times of high usage, e.g. during the day.

Hot water generation
The term hot water generation designates the heating of drinking water in a water heater. This can be an instantaneous water heater, a DHW cylinder, an indirectly heated storage tank water heater or similar.

Key lock
The key lock protects the BM programming module from inadvertent inputs and changes to stored values. If the key lock is active, the BM programming module will not accept any inputs.

Maximum output mode
The maximum output mode is only required for flue gas measurement. In maximum output mode the heating system runs at maximum heating output (full load operation). The maximum output mode is ended automatically either after 15 minutes, or after the maximum flow temperature is exceeded.

Mixer circuit
The mixer circuit is a heating circuit into which a mixer is fitted for temperature regulation of the heating water. The mixer is fitted in the heating flow in order to regulate the flow temperature by mixing in the cooler return water.

Reduced temperature
The reduced temperature is the value to which the set room temperature is reduced at times of low usage.

Setback mode
In the setback mode, the set room temperature is reduced to the reduced temperature at times of little use, e.g. at night.

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Subject to modifications